Labor Unions and Goodwill Impairment

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ABSTRACT

We explore whether managers of unionized firms tend to reduce reported earnings by reporting goodwill impairment losses for a unique group of firms experiencing mergers and acquisitions. We hypothesize that the existence and strength of labor unions are positively linked to the likelihood, frequency, and amount of goodwill impairment. We document that the likelihood of goodwill impairment is positively linked to labor unions, suggesting that managers facing strong unions are more likely to recognize goodwill impairment. Further, we document that the frequency and amount of goodwill impairment are larger for unionized firms, suggesting that strong unions promote managerial incentives to recognize goodwill impairment losses more frequently and to a larger extent.

Keywords: Labor unions; Earnings management; Goodwill impairment

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1. Introduction

The extant literature on goodwill impairment documents that managers of mergers and acquisitions firms opportunistically use accounting discretion in SFAS No. 142 to manage earnings. Managers tend to delay goodwill impairment to inflate stock prices (Li and Sloan 2017), avoid debt covenant violations (Beatty and Weber 2006; Zang 2008; Ramanna and Watts 2012), maximize their earnings-based compensations (Beatty and Weber 2006; Darrough, Guler, and Wang 2014; Filip, Jeanjean, and Paugam 2015), protect their reputations (Brochet and Welch 2011; Ramana and Watts 2012), or avoid stock exchange delisting (Beatty and Weber 2006). While most prior research on accounting for goodwill impairment focuses either on capital-market-related incentives or managerial compensation incentives, we have limited knowledge on the relations between labor unions and goodwill impairment decisions. We aim, in this study, to widen this knowledge by exploring the impact of labor unions on managers' goodwill impairment decisions. We are not aware of any empirical study examining how labor unions affect managers' goodwill impairment decisions.

Prior studies that examine the rent-extraction theory of labor unions extensively document that managers of unionized firms usually take strategic actions to curtail employees' profit-sharing demands. Managers of unionized firms tend to understate profits (DeAngelo and DeAngelo 1991; D'Souza, Jacob, and Ramesh 2001), cut dividends (DeAngelo and DeAngelo 1991), issue more debts (Bronars and Deere 1991; Matsa 2010), miss analysts' earnings forecasts (Bova 2013), increase information opacity (Hilary 2006), decrease disclosure frequency (Chung, Lee, Lee, and Sohn 2016), or strategically use accounting methods (Bowen, DuCharme, and Shores 1995; D'Souza et al. 2001) to curb labor unions' rent extraction behaviors.

Following the literature that examines the effect of labor unions on firms' accounting practices, we posit that unionized firms are more likely to recognize goodwill impairment losses to send negative signals to their employees. We also predict that managers of unionized firms tend to recognize goodwill impairment more often to improve their bargaining positions. Finally, we predict that union strength triggers managerial incentives to report larger goodwill impairment losses to minimize the rents that can be extracted by labor unions.

To test our hypotheses about the effect of union strength on various goodwill impairment characteristics we describe above, we develop our initial sample consisting of all U.S. Compustat firms with a goodwill balance from 2007 to 2016. After removing observations with missing data, our final sample contains 7,979 observations. Following the literature, we employ two measures of labor unions. Following Hilary (2006), our first measure is computed by multiplying industry-level unionization rates by firm-level labor intensity. Following Hamm, Jung, and Lee (2018), the second measure is an indicator variable equal to one if a firm's employees are unionized or represented by a collective agreement.

We employ three proxies for goodwill impairment. The first proxy is an indicator variable equal to one if a firm recognizes goodwill impairment losses. This widely accepted measure indicates the likelihood of goodwill impairment (e.g., Glaum, Landsman, and Wyrwa 2018; Golden, Sun and Zhang 2018). Our second proxy is the frequency of goodwill impairment losses, measured as the number of times a firm recognizes impairment losses during our sample period. Our last proxy for goodwill impairment losses is the ratio of goodwill impairment losses to beginning of year total assets, capturing the magnitude of goodwill impairment losses (e.g., Golden, Sun and Zhang 2018).

In accordance with our hypotheses, we document significantly positive relations between the three proxies of goodwill impairment and our two measures of labor unions, indicating that managers of unionized firms are more likely to recognize goodwill impairment, and if they recognize it, they do so more frequently and to a larger extent. These results suggest that managers facing strong labor unions use goodwill impairment losses to decrease reported earnings and hence increase their bargaining power.

We perform various robustness and sensitivity tests to corroborate our main findings. There is a possibility that our findings can be affected by some unobservable firm characteristics which positively influence both labor unions and goodwill impairment. For example, mature firms and firms with less growth are more likely to have organized labor (e.g., Liberty and Zimmerman 1986; Chung et al 2016; Hamm et al. 2018). Due to their low growth opportunities, these same firms may need to report goodwill impairment, thus driving the positive relations between labor unions and goodwill impairment. To mitigate this concern, we implement the following three tests. First, to directly address the above concern, we partition our sample based on the two firm characteristics—firm age and growth opportunities. We find the positive relationship between labor unions and goodwill impairment variables prevails across all sub-samples, indicating that our results are not concentrated in old firms or firms with lower growth opportunities. This result suggests that our findings are unlikely to be driven by mature firms or firms with lower growth opportunities.

Second, to further mitigate the endogeneity concern, we also perform two-stage least squares regressions. We employ the percentage of female employees as an instrument in the first stage. While prior research finds the percentage of female employees tends to be negatively correlated with unionization rates, there are no theoretical grounds for supposing that the

percentage of female employees directly affects managers' decision to recognize goodwill impairment. (e.g., Chung et al. 2016; Chen, Tong, Wang, and Zhang 2019). In the second stage, we continue to document positive relations between labor unions and goodwill impairment variables, suggesting that our results are robust to the endogeneity concern.

Third, following Aobdia and Cheng (2018), we divide our sample into unionized firms and non-unionized firms in highly unionized industries and compare our measures of goodwill impairment between the two sub-samples. While this sample selection might limit the analysis to a smaller sample as in Aobdia and Cheng (2018), this identification strategy would be powerful since non-unionized firms existing in highly unionized industries are a good within industry control. Within a sample of firms in highly unionized industries, unionized firms are those whose employees are unionized or represented by a collective agreement, while non-unionized firms are firms whose employees are not unionized nor represented by a collective agreement in a specific year. In line with our main results, we document that the likelihood, frequency, and amount of goodwill impairment losses are substantially higher for a group of unionized firms than for a group of non-unionized firms in highly unionized industries.

Labor union literature documents that managers use various accounting and non-accounting strategies to strengthen their bargaining power. For instance, managers are motivated to hold lower levels of cash (Klasa, Maxwell, and Ortiz-Molina 2009) and higher levels of inventory (Hamm, Jung, Lee, and Yang 2020), maintain higher leverage (Matsa 2010), and report strategically (Bova 2013; Chung et al. 2016; Hamm et al. 2018). Since goodwill impairment recognition is one of the accounting strategies that can be used to suppress labor unions' rent extraction incentives, we examine how the availability of other non-accounting strategies such as cash holdings, inventory holdings, and leverage affect managers' goodwill impairment decisions.

We anticipate that managers tend to choose the goodwill impairment option when the adoption of other non-accounting strategies is less effective or not feasible. Consistent with our predictions, the positive relationships between labor unions and goodwill impairment measures are more pronounced when cash holdings are higher and inventory holdings and leverage are lower.

Further, we consider the possibility that the financial crisis in 2008 and 2009 might drive our results since all firms in the economy may have recognized larger amounts of goodwill impairment losses as a big bath strategy during that period. To rule out this possibility, we partition our sample into financial crisis and non-financial crisis periods and run our main regressions to both sub-samples. We find the positive relations between unions and goodwill impairment variables persist in both periods, suggesting that the global financial crisis in 2008 and 2009 does not drive our main results. Also, we check the sensitivity of our results using a third measure of labor unions. We employ state-level unionization rates as additional proxy since the literature suggests that labor union strength is also affected by its location (Krol and Svorny 2007). Our findings are robust to this measure of labor unions based on state-level unionization.

There is also a concern that our findings might be driven by the increased discretion provided by the Accounting Standard Update (ASU) 2011-08 in September 2011. To mitigate this concern, we estimate our main regressions after dividing our sample into two sub-periods: pre and post ASU 2011-08. We find that positive relations between unions and goodwill impairment variables exist in both periods, suggesting that ASU 2011-08 is not driving our findings. Lastly, to mitigate the concern that our findings may be affected by firms with market indications of goodwill impairment—firms that should recognize goodwill impairment—we identify firms that are less likely to recognize impairment losses if the difference between the market and book value of equity exceeds their reported goodwill (Beatty and Weber 2006). Our results persist in the sub-sample of

such firms, indicating that managers of unionized firms tend to recognize impairment losses, to decrease reported earnings, and to gain bargaining advantage even when there is no need to recognize goodwill impairment.

We contribute to the literature on earnings management when firms face strong labor unions. Prior studies in this literature generally offer mixed evidence (Hamm et al. 2018). For example, in their examination of 105 unionized firms from 1968 to 1981, Liberty and Zimmerman (1986) could not document any earnings-reducing manipulations in the periods before union negotiations. On the contrary, DeAngelo and DeAngelo (1991) document income-decreasing behavior in their sample, and Bova (2013) finds that managers facing strong unions are more likely to miss analysts' forecasts. Our study is distinctive because we examine a unique set of firms that have experienced mergers and acquisitions and establish how such firms utilize accounting policy related to goodwill impairment to exhibit downwardly managed earnings. We find empirical evidence that both the existence and strength of labor unions significantly affect managers' goodwill impairment decisions.

In addition, we contribute to the goodwill literature by documenting that labor unions, an important class of stakeholders other than capital market participants, are also an important determinant of managers' goodwill impairment decisions. Further, we contribute to the research that offers evidence on the opportunistic acceleration of goodwill impairment either to take a big bath to maximize future income (Elliott and Shaw 1988; Ramanna and Watts 2012) or to mitigate agency concerns by underreporting earnings when earnings are unexpectedly high (Choi and Nam 2020). Lastly, to our knowledge, we are the first to document that managers consider both accounting and non-accounting strategies to increase bargaining power in labor negotiations. We show that managers rely on goodwill impairment—an accounting strategy—to a larger extent

when non-accounting strategies such as reducing cash holdings and increasing the levels of inventory and leverage are not available to managers.

The remainder of the paper is organized as follows. In section 2, we review related literature and develop our hypotheses. Section 3 describes our sample, variables, and research design. Section 4 reports descriptive statistics and main results. Section 5 illustrates results of additional analyses and sensitivity tests. Section 6 concludes.

2. Prior Literature and hypotheses Development

2.1. Literature on goodwill impairment

In a fast-changing business world, mergers and acquisitions have become a worldwide phenomenon. Firms have been actively involved in mergers and acquisitions not only to stay in competition but also to expand product portfolios, enter new markets, access new resources, or acquire new technologies to be able to grow on a global scale. In a comprehensive survey of over 700 mergers and acquisitions transactions from 13 major industries, Ernst and Young (2009) find that reported goodwill represents 47% of the value of an acquired firm, highlighting the significant importance of goodwill in firm valuation. Figure 1 illustrates the evolution of mergers and acquisitions in the U.S. since inception in 1985.

[Insert Figure 1 about here]

A significant body of accounting research on goodwill impairment documents that managers exploit discretion in goodwill accounting to avoid, delay, accelerate, or misstate the magnitude of impairment losses. For instance, Beatty and Weber (2006) document that managers avoid goodwill impairment if a firm has income-based bonus plans, exchange delisting incentives, or stringent debt covenants. Ramanna and Watts (2012) find that managers of firms with market indications of goodwill impairment defer those impairments when they have private incentives.

Zang (2008) finds that top management strategically understates the amount of goodwill impairment losses to avoid debt-covenant violations. He also documents big bath behaviors by newly appointed managers so that they can report higher earnings in the future. Similarly, Brochet and Welch (2011) document that new CEOs opportunistically overstate goodwill impairment write-offs in the early years of their appointment. Finally, Li and Sloan (2017) find that managers delay reporting goodwill impairments to boost firms' earnings and stock prices. In sum, the literature on goodwill impairment recognition generally provides evidence that managers opportunistically use goodwill impairment to serve various purposes. We extend this line of research by examining how managers facing strong labor unions use the recognition of goodwill impairment to influence unionized employees' perception on firm performance.

2.2. Literature on labor unions

The labor economics literature disagrees on the best model to represent the objectives of labor unions. Some argue that labor unions seek to maximize the wage bill while others model unions' objectives in a manner similar to an individual's utility function: trading off rent maximization against employment for union members (Hirsch and Addison 1986). Nonetheless, both models lead to the conclusion that labor unions extract rents either through demand of higher wages or employing unneeded workers. Consequently, empirical research continues to examine how managers take strategic actions to protect shareholders from unions' rent seeking behaviors. Klasa et al. (2009) document that managers of unionized firms tend to maintain lower levels of cash holdings to shield corporate income from unions' profit-sharing demands. Hamm et al. (2020) document that managers facing strong unions tend to hold higher levels of inventory to maintain bargaining power in labor negotiations. Bronars and Deere (1991) and Matsa (2010) document that managers of unionized firms issue more debt to minimize future earnings available for

employees. Likewise, Bowen et al. (1995) and D'Souza et al. (2001) document that managers of unionized firms strategically choose accounting methods to reduce current net income to strengthen managers' position against labor unions.

Hilary (2006) finds that firms with strong unions exhibit greater levels of information asymmetry to strengthen their bargaining power. Chung et al. (2016) provide corroborating evidence that unionized firms hide good news during union negotiations and release it afterward. Bova (2013) documents that unionized firms intentionally signal negative outlooks by strategically missing stock analysts' earnings forecasts to reduce unions' bargaining power over managers. Finally, Hamm et al. (2018) document that highly unionized firms tend to balance between sheltering firm resources and catering to employees' need for job security by smoothing earnings. Overall, the literature provides evidence that managers strategically use accounting discretions, including accounting policy choices, to engage in income-reducing strategies in the presence of strong labor unions.

2.3. Hypotheses

Building on the above arguments that rent-extracting pressures by unionized employees impose significant costs on management and firms, we posit that managers facing strong unions tend to recognize goodwill impairment more often, with the aim of underreporting current income and thereby avoiding or minimizing employees' profit-sharing demands. Similarly, we argue that unionized firms tend to report goodwill impairment more frequently and to a larger extent. Thus, we further posit that the frequency and amount of impairment losses are a function of labor union strength. This leads to our hypotheses as follows:

Hypothesis 1a: *The likelihood of goodwill impairment is positively related to the existence and strength of labor unions.*

Hypothesis 1b: *The frequency of goodwill impairment is positively related to the existence and strength of labor unions.*

Hypothesis 1c: *The magnitude of goodwill impairment loss is positively related to the existence and strength of labor.*

3. Sample, variables, and research design

3.1. Sample

Our sample includes all U.S. firm-years with a goodwill balance from 2007 to 2016 in Compustat. Our sample period of 2007-2016 is designed to cover five years before and five years after the issuance of the Accounting Standards Update 2011-08 in September 2011. We obtain data to create our main variables, including the strength of labor unions, from various data sources such as the Union Membership and Coverage Database[1], Compustat, Execucomp, IBES, CRSP and Thomson Reuters' institutional holding database. We exclude all observations that have missing values for any firm-level managerial incentives, governance and monitoring, or market-based characteristics. We winsorize all continuous variables at their 1st and 99th percentiles to reduce the impact of extreme values on our results. Our final sample consists of 7,979 observations, of which 7,006 firm-years are without impairment losses (labeled as non-impairment sample) and 973 firm-years have goodwill impairment losses (labeled as impairment sample).

3.2. Goodwill impairment measures

We construct three measures related to managers' choices on goodwill impairment. The first measure, *GWI,* is an indicator variable equal to one if a firm recognizes goodwill impairment losses in a specific year. This measure captures the likelihood of goodwill impairment. The second measure, *GWI_FREQ,* is the frequency of goodwill impairment during our sample period. Our

[1] The Union Membership and Coverage Database is publicly available at www.unionstat.com.

third measure, *GWI_LOSS*, indicates the magnitude of goodwill impairment losses, measured as the amount of goodwill impairment loss divided by beginning of year total assets.[2]

3.3. Labor union measures

Following Hilary (2006) and Hamm et al. (2018), we use two measures of labor unions. First, we measure firm-level union strength, *UNION*, by multiplying firm-level labor intensity by industry-level unionization rates. We calculate labor intensity by dividing the number of employees in a firm by total assets. We obtain data on industry-level unionization rates from the Union Membership and Coverage Database. This measure assumes that the firm-level strength of a labor union is affected by both industry-level unionization rates and its influence on employees in the firm. For example, even when an industry is heavily unionized, if a firm is less labor-intensive (i.e., number of employees is small), the effect of industry-level unionization on managers' behavior will not be significant (Hilary 2006).

Second, following Hamm et al. (2018), we construct *UNION_IND*, an indicator variable capturing the existence of labor unions at the firm level. Specifically, *UNION_IND* equals one if the employees of a firm are unionized or represented by a collective bargaining agreement. First, we hand-collect the 10-K filings from 2007 to 2016 for all our sample firms. Then we manually search all 10-Ks for the following keywords: union, labor union, labor/employee/worker organization, labor/employee/worker agreement, collective(ly) bargaining, collective agreement, collective labor agreement, or collective arrangement to identify whether a firm's employees are unionized or represented by a collective bargaining agreement. Such information is usually available in the "Employees" section of Item 1.

[2] Following Li and Sloan (2017), we set missing values for goodwill impairment (GDWLIP) equal to zero if a firm has a positive goodwill balance.

3.4. Empirical model

To test our research question of whether labor unions affect goodwill impairment variables, we estimate the following model:

$$
\begin{aligned}
GWI_{i,t}(GWI\_FREQ_{i,t} or\ GWI\_LOSS_{i,t}) \\
&= \beta_0 + \beta_1 UNION_{i,t}(\text{or } UNION\_IND_{i,t}) + \beta_2 ROA_{i,t} + \beta_3 SIZE_{i,t} + \beta_4 MTB_{i,t} \\
&+ \beta_5 GW/TA_{i,t} + \beta_6 SEGMENTS_{i,t} + \beta_7 YEARS\_IMP_{i,t} + \beta_8 RISK_{i,t} \\
&+ \beta_9 LEVERAGE_{i,t} + \beta_{10} AUDIT_{i,t} + \beta_{11} FOLLOW_{i,t} + \beta_{12} INST\_OWN_{i,t} \\
&+ \beta_{13} COMP_{i,t} + \beta_{14} TENURE_{i,t} + \beta_{15} SMOOTH_{i,t} + \beta_{16} BATH_{i,t} \\
&+ \beta_{17} RETURN_{i,t} + \beta_{18} RETURN\_LAG_{i,t} + \sum \beta_j INDUSTRY_{j,i} + \sum \beta_t YEAR \\
&+ \varepsilon_{i,t}
\end{aligned}
$$

where our dependent variables are *GWI*, *GWI_FREQ*, and *GWI_LOSS*, indicating the likelihood, frequency, and amount of goodwill impairment, respectively. The variables of our interest are *UNION* and *UNION_IND*, indicating the strength and the existence of labor unions, respectively. All the control variables are defined as below. Positive coefficients of *UNION* and *UNION_IND* in the regression support our hypotheses.

3.5. Control variables

Following prior literature on goodwill impairment, we include various control variables that we expect to affect goodwill impairment decisions in our main regressions. First, we include a set of firm-level controls used in previous research (Francis, Hanna, and Vincent 1996; Ramanna and Watts 2012; Glaum et al. 2018). These include *ROA*, measured as income before extraordinary items divided by total assets; *SIZE*, computed as the natural logarithm of total assets; *MTB*, calculated as the ratio of market to book values of equity; *GW/TA*, measured as the ratio of goodwill to total assets; *SEGMENTS*, computed by counting the number of segments; *YEARS_IMP*, measured as the number of consecutive years with goodwill impairment in previous years; and *RISK*, computed as the standard deviation of monthly market returns. Further, we

control for debt contracting incentives, *LEVERAGE*, calculated by dividing total liabilities by total assets. Francis et al. (1996) and Beatty and Webber (2006) document that managers are more likely to recognize impairment losses if they have reported goodwill impairment in prior years. Ramana and Watts (2012) document that the higher the proportion of goodwill to total assets, the greater the likelihood that goodwill impairment will be recognized. They also document that firms with a greater number of segments have more flexibility in allocating goodwill. Finally, Riedl (2004) and Beatty and Weber (2006) suggest that debt contracting significantly impacts firms' decisions on goodwill impairment.

We also include a set of monitoring and governance controls that prior studies indicate play an important role in goodwill impairment decisions (e.g., Golden, Sun and Zhang 2018; Glaum et al. 2018). The first, *AUDIT*, is an indicator variable equal to one if a firm is audited by a Big 4 auditor. The second, *FOLLOW*, is the average number of stock analysts following a firm for a fiscal year. The third, *INST_OWN*, is the ratio of equity shares held by institutional investors.

Following Glaum et al. (2018), we include several variables to control for managerial incentives to manipulate goodwill impairment. The first is CEO compensation, *COMP*, measured as the ratio of the CEO's variable income to total income. Beatty and Weber (2006) and Ramana and Watts (2012) provide evidence that managers tend to avoid or delay impairment losses when managerial compensations depend on current firm performance. Thus, we predict a negative relationship between goodwill impairment losses and *COMP*. The second variable is CEO tenure, *TENURE*, calculated as the number of years since the executive became a CEO. Francis et al. (1996) and Riedl (2004) find that a new CEO is more likely to report impairment losses in the first year of appointment. Therefore, we anticipate a negative link between impairment losses and *TENURE*. The third is income smoothing, *SMOOTH*, measured as an indicator variable equal to

one if a firm reports profits and has a change in income that is positive and greater than the median of firms with a positive change (Glaum et al. 2018). Prior research documents that senior executives tend to undertake income-decreasing accounting practices when earnings are abnormally high to avoid high expectations of future earnings (Graham, Harvey, and Rajgopal 2005). Therefore, we predict a positive relation between goodwill impairment and *SMOOTH*. The last variable is big bath, *BATH*, measured as an indicator variable equal to one if a firm reports loss and has a change in income that is negative and less than the median of firms with a negative change. Healy (1985) documents that firms are more likely to accelerate loss recognition and take a big bath if they suffer from abnormally large losses. Likewise, we predict a positive relation between impairment losses and *BATH*.

Finally, to control for economic determinants of goodwill impairment losses, we include both *RETURN*, current year stock returns, and *RETURN_LAG*, the previous year's stock returns. Glaum et al. (2018) document that goodwill impairment decisions are related to both current and prior-year stock returns. Lastly, industry and year indicator variables are included to capture variations in goodwill impairment across industries and over time, respectively. The complete list of the variables is in Appendix 1.

[Insert Appendix 1 about here]

4. Descriptive Statistics and Main Results

4.1. Descriptive statistics

Panel A of Table 1 presents the sample distribution by year for the goodwill impairment sample and full sample. The goodwill impairment sample shows that year 2008 has the highest number of goodwill impairments (the number of observations = 197 and 20.25% of observations in the impairment sample), suggesting that the 2008 global crisis significantly affected goodwill

impairment. These findings are consistent with Darrough, Guler, and Wang (2014) and Golden et al. (2018) who find a similar pattern in 2008. Except for 2008 and 2009 (33.41% of observations in the impairment sample), the number of observations in the goodwill impairment sample for other years is evenly distributed. Thus, it is plausible that our results are driven by observations in 2008 and 2009. To mitigate this concern, we perform our main analysis after dividing the sample into two sub-periods: financial crisis period and non-financial crisis period. Panel B of Table 1 illustrates our sample distribution by the two-digit industry codes. There are 4,031 firm-year observations in the manufacturing industry (NAICS 31-33) in the full sample (obs. = 7,979). The most heavily represented industries in the impairment sample (obs. = 973) are also the manufacturing industry with 507 goodwill impairments followed by the finance and insurance industry with 70 firm-year observations.

[Insert Table 1 about here]

Table 2 exhibits descriptive statistics for all research variables in our model. We show statistics separately for the impairment sample (obs. = 973), non-impairment sample (obs. = 7,006), and full sample (obs. = 9,979), respectively. We also report mean differences between the impairment and non-impairment samples and p-values from the t-test and Mann-Whitney test, respectively. The statistics outlined in Table 2 reveal that firms with goodwill impairment tend to have stronger labor unions (*UNION* and *UNION_IND*). In line with our hypothesis that unionized firms are more likely to recognize goodwill impairment, both mean and median values of *UNION* are substantially higher in the impairment sample than those in the non-impairment sample. Our inferences are similar when using *UNION_IND* instead of *UNION*. Again, both mean and median values of *UNION_IND* are substantially higher in the impairment sample compared to those in the non-impairment sample.

We also document that firms in the impairment sample tend to have lower profitability (*ROA*), larger size (*SIZE*), lower market to book ratios (*MTB*), larger number of segments (*SEGMENTS*), larger number of consecutive years with impairment losses before the current year (*YEARS_IMP*), higher risk (*RISK*), higher leverage (*LEVERAGE*), fewer analysts following (*FOLLOW*), lower percentage of institutional ownership (*INST_OWN*), lower executive compensation (*COMP*), less positive income (*SMOOTH*), more negative income (*BATH*), shorter tenure (*TENURE*), and less current and previous market returns (*RETURN* and *RETURN_LAG*, respectively). These differences between impairment and non-impairment samples are consistent with the prior literature and our predictions. For instance, firms tend to report goodwill impairment losses when their performance (*ROA* and *RETURN*) and growth opportunities (*MTB*) are low. These results also imply that firms with poor performance may use impairment losses as a big-bath strategy. Lastly, all the significant differences between the two samples for control variables emphasize the need to control for such variables in testing our hypotheses.

[Insert Table 2 about here]

Table 3 exhibits the Spearman and Pearson correlations for selected variables. The correlation coefficients show that the two measures of labor unions *UNION* and *UNION_IND* are positively and significantly correlated. Specifically, Spearman and Pearson correlation coefficients between the two measures are 0.482 and 0.361, respectively, suggesting that two measures are capturing a similar construct of labor union strength. More importantly, we document that the two measures of labor unions are significantly and positively correlated with the three goodwill impairment measures, *GWI*, *GWI_FREQ*, and *GWI_LOSS*, preliminarily supporting our hypotheses. Furthermore, the associations between union variables and our control variables are consistent with prior studies (e.g., Matsa 2010). For example, we find positive associations

between labor union variables and *LEVERAGE*, indicating that unionized firms tend to have more leverage to increase bargaining positions in union negotiations. We also document that both union variables exhibit a significantly negative correlation with executive compensation (*COMP*). In line with the prior literature (e.g., Gomez and Konstantinos 2006; Huang, Jiang, Lie, and Que 2017), this result suggests that strong labor unions play a role in reducing executive compensation. Further, we find that goodwill impairment variables exhibit significant correlations with other firm characteristic variables with predicted signs. Those correlations are generally in line with our inferences obtained from the results in Table 2.

[Insert Table 3 about here]

4.2. Main results

Panel A of Table 4 illustrates the results from the logistic regression of our model when the dependent variable is *GWI*, the likelihood of goodwill impairment. Consistent with our prediction, both *UNION* and *UNION_IND* have significant and positive relationships with the likelihood of goodwill impairment (coefficient = 3.071; z-statistic = 2.977; p-value = 0.003) and (coefficient = 0.651; z-statistic = 6.027; p-value = 0.000), respectively. Thus, managers of firms with strong (weak) unions are more (less) likely to recognize goodwill impairment during our sample period. The coefficients on control variables are in line with our predictions. The results indicate that the likelihood of goodwill impairment is substantially higher for less profitable firms (*ROA*), larger firms (*SIZE*), firms with a higher number of segments (*SEGMENTS*), firms with a larger number of consecutive years with goodwill impairment in prior years (*YEARS_IMP*), firms with less current returns (*RETURN)* and lagged stock returns (*RETURN_LAG*).

[Insert Table 4 about here]

Panel B of Table 4 illustrates the results from estimating the ordered logistic regression when the dependent variable is *GWI_FREQ*, the frequency of goodwill impairment. Consistent with our prediction, we document significant and positive coefficients on *UNION* (coefficient = 2.389; z-statistic = 2.475; p-value = 0.013) and *UNION_IND* (coefficient = 0.549; z-statistic = 5.319; p-value = 0.000). These results indicate that managers of unionized firms tend to recognize goodwill impairment losses more frequently. Panel C illustrates the results when the dependent variable is *GWI_LOSS*, the amount of goodwill impairment. Again, in accordance with our prediction, we find significant and positive coefficients on both *UNION* (coefficient = 0.017; t-statistic = 3.000; p-value = 0.003) and *UNION_IND* (coefficient = 0.002; t-statistic = 4.872; p-value = 0.000). These findings indicate that managers facing strong unions tend to recognize larger goodwill impairment losses compared to those with weak unions.

4.3. Addressing Concerns on Endogeneity and Correlated Omitted Variables

There is a concern that our findings may be affected by some unobservable firm characteristics that influence both labor unions and goodwill impairment. Prior research on labor unions suggests that unionization may be an endogenous process since unions self-select to organize in more established firms (e.g., Chyz 2013; Chung et al. 2016; Hamm et al. 2018; Chen et al. 2019). Thus, more mature firms are more likely to have organized labor (e.g., Chung et al 2016; Hamm et al. 2018) and at the same time, due to their smaller growth opportunities, they may need to recognize goodwill impairment, leading to the positive relation between labor unions and goodwill impairment. To address this endogeneity concern and a potential correlated omitted variables problem, we perform the following three tests.

4.3.1. Results based on sub-sample analyses

First, to mitigate the above concern, that more mature firms or firms with less growth opportunities may drive our results, we directly examine whether our results—the positive relations between labor unions and goodwill impairment—are affected by firm maturity and growth potentials. To proxy for firm maturity and growth potentials, we use firm age and market-to-book ratio, respectively. If the above concern is valid, we will find that our results exist only in the sub-sample of old firms and the sub-sample of firms with lower market-to-book ratios. To test, we first divide our sample into two sub-samples according to the medians of firm age and market-to-book ratios and estimate our model to each set of matched sub-samples (by year, industry, and size). Results are illustrated in Table 5.

[Insert Table 5 about here]

Panel A of Table 5 exhibits the results when using *UNION* as a measure of labor unions. We find that the coefficients on *UNION* are significantly positive for all sub-samples except when the dependent variable is *GWI_FREQ* and our model is estimated in the sub-sample of firms with low growth opportunities. The seemingly unrelated regressions show that there is no statistical difference in the coefficients on *UNION* between the two sub-samples when either firm age or growth opportunities is used as a partitioning variable. Panel B reports the results when using *UNION_IND* instead of *UNION*. We also find that all the coefficients on *UNION_IND* are significantly positive for all sub-samples. Again, seemingly unrelated regressions confirm the same result that there is no significant difference in the coefficients on *UNION_IND* between the two sub-samples. In sum, these results alleviate the concern that our findings are driven by the endogenous relation between labor union and certain firm characteristics such as firm age and growth potential.

4.3.2. Results based on two-stage least squares regressions

As an additional robustness check to mitigate the endogeneity concern, we also perform a two-stage least squares analysis. Following Chung et al. (2016) and Chen et al. (2019), we use the percentage of female employees (*FEMALE*) in a firm's industry as an instrumental variable.[3] The extant literature on labor economics suggests that a firm with a higher ratio of female employees is less likely to unionize and, even if it does, its unions tend to be weaker. Thus, we predict a negative relationship between *FEMALE* and *UNION* (*UNION_IND*) in our sample. Meanwhile, there is no reason to suggest that there is a positive link between the percentage of female employees and a firm's goodwill impairment decisions. Thus, we believe that the ratio of female employees is a good instrumental variable in our research setting.

In the first stage, we regress *UNION* (*UNION_IND*) on *FEMALE* and all other explanatory variables in our model, including industry and year indicator variables. Results are reported in Panel A of Table 6. As expected, we document significantly negative coefficients on *FEMALE* for both measures of labor unions in the first stage regressions, consistent with prior studies showing that firms with more female employees are less likely to have strong labor unions. In the second stage, we include the fitted values of *UNION* (*UNION_IND*) from the first stage and include it as an independent variable. Results are reported in Panel B of Table 6. We find that when the dependent variable is *GWI*, the likelihood of goodwill impairment, the coefficients on the fitted values for both *UNION* and *UNION_IND* are still significantly positive, consistent with our main findings reported in Table 4. We also document that the magnitudes of the coefficients on both *UNION* and *UNION_IND* in this analysis are even larger than those on the corresponding coefficients in Table 4. We find similar results when the dependent variable is either *GWI_FREQ* or *GWI_LOSS*. These results are reported in Panel C and Panel D, respectively.

[3] We obtain the data on the ratio of female employees from the U.S. Bureau of Labor Statistics.

[Insert Table 6 about here]

In sum, our results still hold after addressing the endogeneity concern using two-stage least squares regressions: that managers facing strong unions are more likely to recognize goodwill impairment and when they do, they recognize goodwill impairment losses more frequently and to a larger extent.

4.3.3. Results based on non-unionized firms in highly unionized industries

As another identification strategy, like that of Aobdia and Cheng (2018), we compare our goodwill impairment measures of unionized firms and non-unionized firms in highly unionized industries. We believe that this identification strategy can be effective since non-unionized firms operating in highly unionized industries is a powerful within industry control. We define "highly unionized industries" as those with unionization rates higher than the yearly median of the industry-level unionization rate. Within a sample of firms in these industries, unionized firms are those whose employees are unionized or represented by a collective agreement while non-unionized firms are those firms whose employees are not unionized nor represented by a collective agreement in a specific year.

Table 7 shows that the sample size for unionized (non-unionized) firms in highly unionized industries is 2,275 (1,657) firm-year observations. First, when we compare *GWI*, the likelihood of goodwill impairment between the two groups, we find the mean of *GWI* is significantly higher for the unionized group (0.164 vs. 0.104) and the difference is significant at the 1% level. The difference also seems economically significant because the likelihood of goodwill impairment is at least 50% higher for unionized firms compared to non-unionized firms. Further, we find that *GWI_FREQ*, the frequency of goodwill impairment, is also higher for unionized firms than for non-unionized firms (0.371 vs. 0.232), thus corroborating our main results. Again, the difference

is also statistically and economically significant. Lastly, *GWI_LOSS*, the magnitude of goodwill impairment loss, is also much higher for unionized firms compared to non-unionized firms (0.005 vs. 0.002). The difference is also economically meaningful since the magnitude in unionized firms is more than twice as large as in non-unionized firms.

[Insert Table 7 about here]

In sum, consistent with our main results, we document that the likelihood, frequency, and magnitude of goodwill impairment are higher for a group of unionized firms than for a group of non-unionized firms in highly unionized industries.

5. Additional Analyses and Sensitivity Tests

5.1. Cross-Sectional Variations in Managers' Goodwill Impairment Decisions

The literature on labor unions documents that managers use various accounting and non-accounting strategies to gain bargaining power in labor negotiations. For instance, to maintain bargaining power, managers are motivated to hold lower levels of cash balances (Klasa, Maxwell, and Ortiz-Molina 2009) and higher levels of inventory (Hamm, Jung, Lee, and Yang 2020), maintain higher leverage (Matsa 2010), and report strategically (Bova 2013; Chung, Lee, Lee, and Sohn 2016; Hamm, Jung, and Lee 2018). Obviously, managers make the cost/benefit trade-off in using goodwill impairment recognition strategies compared with other potential tools to increase their bargaining strength with labor unions. Since goodwill impairment recognition is one of accounting strategies used against labor unions, we examine how non-accounting strategies documented in the literature affect managers' decision on goodwill impairment recognition. Specifically, we examine how managers' goodwill impairment decisions are affected by their cash holdings, inventory holdings, and leverage when facing strong labor unions. We predict that managers are more likely to choose goodwill impairment options when adopting other non-

accounting strategies is less effective, for example, when cash holdings are higher, inventory holdings are lower, and leverage is lower.

In Panel A of Table 8, we report the results of estimating the effect of cash holdings on the relations between labor unions and goodwill impairment variables. To test, we run our main regression on matched sub-samples (by year, industry, and size) after splitting the sample into two groups according to the sample median of cash holdings—high and low cash holdings groups. We document that the positive effect of labor unions on our goodwill impairment variables is stronger when cash holdings are higher. These results suggest that when managers' strategy to reduce cash holdings to gain more bargaining power is not effective, they are more likely to rely on goodwill impairment options.

[Insert Table 8 about here]

In Panel B, we report the results of examining how managers' inventory stockpiling to weaken labor unions' strike threats affects our results. Hamm et al. (2020) document that when labor unions are strong, managers' inventory stockpiling incentives are stronger since stockpiling can effectively weaken unions' strikes. Similar to the analysis used in Panel A, we run our regression on matched sub-samples (by industry, year, and size) after dividing our sample into two sub-samples according to the median of inventory holdings. We find that the positive effect of unions on goodwill impairment variables is more pronounced for firms with lower inventory levels. Again, these results suggest that managers rely on goodwill impairment recognition to a larger extent when the inventory stockpiling option is not viable.

In Panel C, we examine leverage as an alternative bargaining tool against labor unions based on prior studies' findings that managers facing strong unions tend to increase leverage (e.g., Matsa 2010). We document that our main results are valid only when leverage is less than the

sample median, again suggesting that goodwill impairment recognition can be used as a bargaining tool when using debt is not effective.

Overall, these results indicate that managers compare various strategies, both accounting and non-accounting, to weaken labor unions' bargaining power. In our setting, they rely on goodwill impairment recognition to a larger extent when non-accounting strategies are not feasible.

5.2. Robustness Tests

5.2.1. The effect of financial crisis period on the results

To check the sensitivity of our results to the 2008 global financial crisis, we split our sample into two sub-periods: financial crisis period (2008-2009, inclusive) versus non-crisis period (2007, 2010-2016, inclusive). We choose 2008 and 2009 as financial crisis period because we observe that the number of goodwill impairments significantly increased in these two years (197 and 128 goodwill impairments in 2008 and 2009, respectively). This test also allows us to examine how changes in macro-economic conditions impact the relations between labor unions and goodwill impairment decisions. Table 9 reports the results for both sub-periods. Panel A shows that when the dependent variable is either *GWI, GWI_FREQ,* or *GWI_LOSS*, the coefficients on *UNION* are significantly positive for both sub-periods and show no significant difference in the magnitude of the coefficients between the two sub-periods. These results suggest that the positive relations between labor unions and goodwill impairment decisions are not affected by the inclusion of observations in the global financial crisis in our sample. In Panel B, we obtain similar results when *UNION_IND* is used instead of *UNION*.

[Insert Table 9 about here]

5.2.2. The effect of ASU 2011–08 on the results

We further examine the effect of the Accounting Standard Update (ASU) 2011-08 on our findings. ASU 2011-08 provides managers with more accounting discretions to test goodwill impairments and is effective for goodwill impairment tests in fiscal years starting after December 15, 2011. We investigate whether our results are driven by the increased accounting discretion after the ASU 2011-08. We split our sample into sub-periods based on ASU 2011-08 and estimate our main regressions in both sub-periods. The post-ASU 2011-08 sample consists of 4,010 observations from 2012 to 2016 with 447 goodwill impairments. Table 10 presents the results from estimating our model for both pre and post ASU-2011-08 sub-samples. Results in Panel A illustrate that the coefficients on *UNION* are significantly positive in both pre- and post- ASU-2011-08 samples. The seemingly unrelated regressions also show that the coefficients on *UNION* between pre- and post-periods are not statistically different. Panel B reports similar findings when using *UNION_IND* instead of *UNION*. In sum, these results suggest that the positive relations between labor unions and goodwill impairment exist before and after ASU 2011-08, mitigating the concern that our results are driven by observations after ASU 2011-08.[4]

[Insert Table 10 about here]

5.2.3. The relation between labor unions and goodwill impairment without market indications of goodwill impairment

In this section, we further examine whether our results on the relationship between labor unions and goodwill impairment are due to managers' intentional recognition of goodwill impairment to reduce reported earnings and thus increase bargaining power against labor unions. Specifically, we test whether the positive links between labor unions and goodwill impairment are

[4] We explore the relations between labor unions and goodwill impairment by using another measure of union strength. We obtain data on strikes from the Major Work Stoppages reports released by the U.S. Bureau of Labor Statistics. These reports provide data on stoppages that involve 1,000 or more workers. We find only twenty-two strikes in thirteen firms, however, which limits our ability to draw conclusions on the relations between goodwill impairment and labor unions.

stronger when managers should not recognize goodwill impairment. We test this prediction in a sample of firms without market indications of goodwill impairment. Following Beatty and Weber (2006), we identify a firm as having no market indications of goodwill impairment if the difference between market value and book value of equity is greater than their recorded goodwill. Based on this measure, we form a sub-sample of firm-years without market indications of goodwill impairment and estimate our main model. Results are reported in Table 11. We document that labor unions have significant and positive relations with all goodwill impairment measures, suggesting that our main results exist in this sub-sample. These findings further indicate that managers of unionized firms recognize goodwill impairment to reduce reported earnings for better bargaining power even when market indications of goodwill impairment say that goodwill should not be impaired.

In non-tabulated tests, we document that union strength is not significantly related to goodwill impairment measures in the sub-sample of firms with market indications of goodwill impairment. The result suggests that when goodwill is likely to be impaired, managers are more likely to recognize goodwill impairment regardless of the existence and strength of unions. As an alternative proxy for market indications of goodwill impairment, we employ Ramanna and Watts (2012)'s definition and find that the results are qualitatively similar.[5] Overall, the results in Table 11 indicate that the positive relations between labor unions and goodwill impairment that we document are due to managers' intentional recognition of goodwill impairment to weaken labor unions' bargaining power.

[Insert Table 11 about here]

[5] Ramanna and Watts (2012) identify firms with market indications of goodwill impairment as firms with a positive goodwill balance and with book to market ratio above one in the last two subsequent fiscal years.

6. CONCLUSION

Prior research suggests several determinants of goodwill impairment that are mostly related to managerial incentives or financial stakeholders' demands. Our focus is on the hitherto mostly ignored impact of unionization on the likelihood, frequency, and extent that managers recognize goodwill impairments. Prior literature also suggests that managers strategically react to unions' rent-seeking activities by engaging in income-decreasing accounting strategies. Therefore, we posit a significantly positive relationship between union strength and goodwill impairment incidence. We also predict that managers facing strong unions rely on goodwill impairment more frequently to lower reported earnings, and when managers recognize goodwill impairment, the amount of impairment losses is larger for unionized firms.

We use three measures for goodwill impairment—an indicator variable to capture the likelihood of goodwill impairment loss, an ordinal variable to proxy for the frequency of goodwill impairment, and a continuous variable to capture the magnitude of goodwill impairment losses. We employ two proxies for labor unions—an indicator variable to capture the existence and strength of unions in a firm, computed by multiplying industry-level unionization rates by firm-level labor intensity. The results are in line with our hypotheses that labor unions are positively linked to the likelihood, frequency, and amount of goodwill impairment. Our results are robust to various robustness tests to address the endogeneity concern and to mitigate concerns on the effects of the global financial crisis, ASU 2011-08, and market indications of goodwill impairment.

By finding evidence that labor unions are positively related to goodwill impairment decisions, we contribute to the accounting literature that investigates the impact of labor considerations on manager's accounting choices. Our results indicate that managers of unionized firms strategically reduce reported income using the accounting discretion in the goodwill

accounting standard to avoid labor unions' profit-sharing demands. While most prior research, such as Bova (2013), examines the impact of labor unions on earnings levels, we examine a specific accounting choice—goodwill impairment to reduce overall earnings level for firms experiencing mergers and acquisitions.

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Appendix 1: Variable Definitions and Data Sources

Variables	Description	Source
GWI	Indicator variable equals 1 if a firm recognizes a goodwill impairment loss (GDWLIP).	Compustat
GWI_FREQ	Ordinal variable equal to the cumulative number of times a firm records a goodwill impairment loss.	Compustat
GWI_LOSS	(-1) × goodwill impairment loss scaled by lagged total assets (GDWLIP/AT)	Compustat
UNION	Industry-based union measure calculated by multiplying the industry-level union rates by firm-level labor intensity (EMP/AT) following Hilary (2006).	Unionstats/ Compustat
UNION_IND	Indicator variable equal to 1 if the employees of a firm has a union or experiences a collective bargaining agreement following Hamm et al. (2018).	10-Ks
ROA	Income before extraordinary items divided by total assets (IB/AT).	Compustat
SIZE	The natural log of total assets (AT).	Compustat
MTB	Market value divided by book value (CSHO × PRCC_F / CEQ).	Compustat
GW/TA	Goodwill divided by total assets (GDWL /AT).	Compustat
SEGMENT	Number of segments (BUSSEG / OPSEG).	Compustat
YEARS.IMP	Number of consecutive years with goodwill impairment losses (GDWLIP) before the current year, following Glaum et al. (2018).	Compustat
RISK	Standard deviation of monthly market returns.	CRSP
LEV	Total liabilities divided by total assets (LT/AT).	Compustat
AUDIT	Indicator variable equal 1 if a firm is audited by a Big 4 auditing firm (AU = 4, 5, 6, or 7).	Compustat
FOLLOWING	Number of analysts following a firm.	I/B/E/S
INST.OWN	Proportion of equity shares held by institutional owners.	TR 13f-s34
COMP	CEO's variable income (tdc2 - salary) divided by total income (tdc2).	Execucomp
TENURE	Number of years the CEO is in office.	Execucomp
SMOOTH	Indicator variable equals 1 if income (IB) is positive and the change in income is greater than the median among firms with a positive change in income, following Glaum et al. (2018).	Compustat
BATH	Indicator variable equals 1 if income (IB) is negative and the change in income is less than the median among those firms with a negative change in income, following Glaum et al. (2018).	Compustat
RETURN	Annual stock return for firm.	CRSP
RETURN_LAG	One-year lagged annual stock return.	CRSP
FEMALE	Percentage of female employees.	U.S. BLS
UNION_STATE	State-based union measure calculated by multiplying the state-level union rates by firm-level labor intensity (EMP/ AT) following Hamm et al. (2018).	Unionstats/ Compustat
AGE	Natural log of a firm's age since it appeared in CRSP.	CRSP
CASH_HOLDING	Cash minus debt in current liabilities (CH - DLC).	Compustat
INVENTORY	Inventory divided by total assets (INVT/AT).	Compustat

Table 1: Sample Distribution

Panel A: Distribution by Year

	Full Sample	Percent	Impairment Sample	Percent
2007	762	9.55%	47	4.85%
2008	798	10.00%	197	20.25%
2009	801	10.04%	128	13.16%
2010	807	10.11%	67	6.89%
2011	801	10.04%	87	8.94%
2012	799	10.01%	92	9.46%
2013	804	10.08%	80	8.22%
2014	797	9.99%	80	8.22%
2015	806	10.10%	96	9.87%
2016	804	10.08%	99	10.17%
Total	7,979	100.00%	973	100.00%

Panel B: Distribution by Industry

Two-Digit Industry Code	Industry Name	Full Sample	Impairment Sample
11	Agriculture, Forestry, Fishing and Hunting	9	0
21	Mining, Quarrying, and Oil and Gas Extraction	205	28
22	Utilities	60	10
23	Construction	165	30
31-33	Manufacturing	4,031	507
42	Wholesale Trade	339	49
44-45	Retail Trade	368	49
48-49	Transportation and Warehousing	227	19
51	Information	629	59
52	Finance and Insurance	643	70
53	Real Estate and Rental and Leasing	244	20
54	Professional, Scientific, and Technical Services	392	31
56	Administrative and Support and Waste Management and Remediation Services	217	35
61	Educational Services	58	18
62	Health Care and Social Assistance	156	14
71	Arts, Entertainment, and Recreation	30	7
72	Accommodation and Food Services	156	19
81	Other Services (except Public Administration)	50	8

Note: This table reports the sample distribution by year and 2-digit NAICS Code.

Table 2: Descriptive Statistics

	Full Sample				Impairment Sample				Non-Impairment Sample						
	N	Mean	Med.	Std. Dev.	N	Mean	Med.	Std. Dev.	N	Mean	Med.	Std. Dev.	Diff in Mean	t-test p-value	Ranksum p-value
Goodwill Impairment															
GWI	7,979	0.122	0.000	0.327	973	1.000	1.000	0.000	7,006	0.000	0.000	0.000	1.000	-	0.000
GWI_FREQ	7,979	0.258	0.000	0.850	973	2.111	2.000	1.419	7,006	0.000	0.000	0.000	2.113	0.000	0.000
GWI_LOSS	7,979	0.004	0.000	0.019	973	0.034	0.012	0.043	7,006	0.000	0.000	0.000	0.034	0.000	0.000
Labor Union															
UNION	7,954	0.032	0.016	0.044	970	0.038	0.020	0.049	6,984	0.031	0.015	0.043	0.006	0.000	0.000
UNION_IND	7,979	0.363	0.000	0.481	973	0.521	1.000	0.500	7,006	0.340	0.000	0.474	0.181	0.000	0.000
Firm-level control variables															
ROA	7,979	0.051	0.054	0.081	973	-0.012	0.013	0.111	7,006	0.060	0.057	0.072	-0.073	0.000	0.000
SIZE	7,979	7.841	7.686	1.692	973	8.003	7.836	1.637	7,006	7.819	7.664	1.698	0.191	0.001	0.001
MTB	7,979	3.202	2.352	4.461	973	2.321	1.658	3.642	7,006	3.324	2.455	4.550	-1.005	0.000	0.000
GW/TA	7,979	0.159	0.120	0.149	973	0.157	0.133	0.136	7,006	0.159	0.118	0.151	-0.002	0.759	0.282
SEGMENTS	7,979	2.549	2.000	1.545	973	3.002	3.000	1.646	7,006	2.486	2.000	1.520	0.522	0.000	0.000
YEARS_IMP	7,979	0.168	0.000	0.523	973	0.521	0.000	0.897	7,006	0.119	0.000	0.425	0.401	0.000	0.000
RISK	7,979	0.098	0.084	0.054	973	0.124	0.098	0.076	7,006	0.095	0.083	0.049	0.029	0.000	0.000
Debt Contracting															
LEVERAGE	7,979	0.530	0.528	0.229	973	0.563	0.561	0.212	7,006	0.526	0.523	0.231	0.038	0.000	0.000
Governance and Monitoring															
AUDIT	7,979	0.928	1.000	0.259	973	0.948	1.000	0.223	7,006	0.925	1.000	0.263	0.022	0.011	0.011
FOLLOW	7,979	11.043	9.250	7.461	973	10.467	8.750	7.078	7,006	11.123	9.333	7.509	-0.650	0.010	0.030
INST_OWN	7,979	0.828	0.854	0.163	973	0.820	0.842	0.155	7,006	0.829	0.856	0.164	-0.009	0.114	0.011
Managerial/Firm Incentives															
COMP	7,979	0.758	0.823	0.204	973	0.729	0.790	0.213	7,006	0.762	0.826	0.202	-0.033	0.000	0.000
TENURE	7,979	8.175	6.324	7.194	973	7.289	5.144	6.973	7,006	8.298	6.500	7.216	-1.004	0.000	0.000
SMOOTH	7,979	0.156	0.000	0.363	973	0.090	0.000	0.287	7,006	0.165	0.000	0.372	-0.075	0.000	0.000
BATH	7,979	0.074	0.000	0.261	973	0.301	0.000	0.459	7,006	0.042	0.000	0.201	0.259	0.000	0.000
Economic Determinants															
RETURN	7,979	0.129	0.110	0.373	973	0.029	0.026	0.405	7,006	0.143	0.120	0.366	-0.113	0.000	0.000
RETURN_LAG	7,979	0.134	0.115	0.377	973	-0.030	-0.055	0.360	7,006	0.156	0.135	0.373	-0.186	0.000	0.000

Notes: This panel reports the simple statistics of all research variables, mean differences between the impairment and non-impairment groups, and p-values corresponding to tests for differences in means and medians based on the t-test and the Mann-Whitney rank-sum test. All continuous variables are winsorized at the top and bottom 1%. All variables are defined in Appendix 1.

Table 3: Spearman and Pearson Correlations

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)
(1) *GWI*		0.997***	0.997***	0.058***	0.124***	0.012	0.108***	0.236***	0.058***	0.029***	-0.022**	-0.029***	-0.064***	-0.061***	-0.067***	0.325***
(2) *GWI_FREQ*	0.813***		0.993***	0.059***	0.125***	0.015	0.111	0.257***	0.060***	0.030***	-0.022**	-0.027**	-0.064***	-0.061***	-0.064***	0.315***
(3) *GWI_LOSS*	0.588***	0.387***		0.061***	0.125***	0.012	0.104***	0.231***	0.055***	0.027***	-0.027***	-0.028***	-0.071***	-0.061***	-0.071***	0.353***
(4) *UNION*	0.047***	0.049***	0.032***		0.482***	0.117***	0.076***	0.052***	-0.009	-0.054***	-0.143***	-0.052***	-0.156***	0.002	0.001	-0.009
(5) *UNION_IND*	0.123***	0.115***	0.073***	0.361***		0.125***	0.199***	0.088***	0.198***	0.051***	-0.029***	-0.053***	-0.032***	-0.025***	-0.013	-0.011
(6) *GW/TA*	-0.003	0.005	-0.010	0.024**	0.086***		0.075***	0.005	-0.025**	0.043***	0.126***	0.108***	0.132***	-0.012	-0.078***	-0.075***
(7) *SEGMENTS*	0.109***	0.118***	0.013	0.035***	0.177***	0.025**		0.102***	0.226***	0.131***	0.1135***	-0.089***	0.132***	-0.065***	-0.058***	-0.028***
(8) *YEARS_IMP*	0.251***	0.422***	0.083***	0.050***	0.094***	0.006	0.116***		0.053***	0.012	-0.029***	-0.019***	-0.050***	-0.071***	0.140***	0.026**
(9) *LEVERAGE*	0.053***	0.060***	0.005	0.029**	0.181***	-0.042***	0.206***	0.056***		0.197***	0.185***	-0.002	0.182***	-0.103***	-0.083***	-0.010
(10) *AUDIT*	0.028**	0.023**	-0.010	-0.019*	0.052***	0.038***	0.132***	0.014	0.190***		0.244***	0.093***	0.190***	-0.049***	-0.018	-0.024**
(11) *FOLLOW*	-0.029**	-0.022**	-0.059***	-0.114***	-0.053***	0.076***	0.120***	-0.024**	0.158***	0.217***		0.080***	0.457***	-0.041***	-0.052***	-0.090***
(12) *INST_OWN*	-0.018	0.002	-0.018*	-0.059***	-0.040***	0.115***	-0.055***	-0.002	0.027**	0.103***	0.060***		0.125***	-0.035***	0.035***	-0.017
(13) *COMP*	-0.053***	-0.025**	-0.100***	-0.079***	0.014	0.117***	0.155***	-0.015	0.195***	0.197***	0.365***	0.196***		0.043***	0.026**	-0.135***
(14) *TENURE*	-0.046***	-0.051***	-0.030***	0.034***	-0.037***	-0.023**	-0.048***	-0.056***	-0.129***	-0.083***	-0.064***	-0.065***	-0.088***		-0.024**	-0.042***
(15) *SMOOTH*	-0.068***	-0.028***	-0.082***	0.019*	-0.014	-0.083***	-0.055***	0.119***	-0.077***	-0.017	-0.043***	0.026**	0.043***	-0.022**		-0.121***
(16) *BATH*	0.324***	0.198***	0.520***	-0.003	0.010	-0.064***	-0.029**	0.023**	-0.013	-0.027**	-0.083***	-0.024**	-0.152***	-0.018*	-0.121***	

Notes: This table presents the correlation matrix for selected variables for the full sample. Spearman and Pearson correlations are presented above and below the diagonal, respectively. All continuous variables are winsorized at the top and bottom 1%. ***, **, and * denote significance at the 1%, 5%, and 10%, respectively. All variables are defined in Appendix 1.

Table 4: Relation between Labor Unions and Goodwill Impairment

Panel A: Labor Unions and the Likelihood of Goodwill Impairment

Variable Name	*UNION*	*UNION_IND*
Labor union		
Coefficient	**3.071**	**0.651**
z-statistic	**2.977**	**6.027**
p-value	**0.003**	**0.000**
Firm-Level Control Variables		
ROA		
Coefficient	-4.698	-4.764
z-statistic	-6.509	-6.454
p-value	0.000	0.000
SIZE		
Coefficient	0.163	0.109
z-statistic	3.386	2.217
p-value	0.001	0.027
MTB		
Coefficient	-0.012	-0.011
z-statistic	-1.066	-0.865
p-value	0.286	0.387
GW/TA		
Coefficient	0.699	0.483
z-statistic	2.106	1.426
p-value	0.035	0.154
SEGMENTS		
Coefficient	0.172	0.174
z-statistic	5.264	5.147
p-value	0.000	0.000
YEARS_IMP		
Coefficient	0.913	0.898
z-statistic	15.403	14.401
p-value	0.000	0.000
RISK		
Coefficient	0.883	0.893
z-statistic	0.925	0.918
p-value	0.355	0.359
Debt Contracting		
LEVERAGE		
Coefficient	-0.246	-0.424
z-statistic	-0.906	-1.539
p-value	0.365	0.124
Governance and Monitoring		
AUDIT		
Coefficient	0.218	0.238
z-statistic	0.986	1.074
p-value	0.324	0.283
FOLLOW		
Coefficient	-0.018	-0.012
z-statistic	-1.907	-1.251
p-value	0.056	0.211
INST_OWN		
Coefficient	0.308	0.337
z-statistic	1.083	1.179
p-value	0.279	0.238

Managerial/Firm Incentives		
COMP		
Coefficient	0.153	0.168
z-statistic	0.595	0.662
p-value	0.552	0.508
TENURE		
Coefficient	-0.010	-0.011
z-statistic	-1.618	-1.654
p-value	0.106	0.098
SMOOTH		
Coefficient	-0.222	-0.216
z-statistic	-1.507	-1.485
p-value	0.132	0.138
BATH		
Coefficient	1.508	1.497
z-statistic	10.846	10.667
p-value	0.000	0.000
Economic Determinants		
RETURN		
Coefficient	-0.675	-0.693
z-statistic	-4.907	-4.995
p-value	0.000	0.000
RETURN_LAG		
Coefficient	-0.729	-0.754
z-statistic	-4.453	-4.583
p-value	0.000	(0.000)
Intercept	Yes	Yes
Year and industry fixed effects	Yes	Yes
Observations	7,945	7,960
Pseudo R-squared	0.226	0.233

Panel B: Labor Unions and the Frequency of Goodwill Impairment Loss Recognition

Variable Name	***UNION***	***UNION_IND***
Labor Union		
Labor union		
Coefficient	**2.389**	**0.549**
z-statistic	**2.475**	**5.319**
p-value	**0.013**	**0.000**
Intercept and controls	Yes	Yes
Year and industry fixed effects	Yes	Yes
Observations	7,954	7,979
Pseudo R-squared	0.153	0.163

Panel C: Labor Unions and the Magnitude of Goodwill Impairment Losses

Variable Name	***UNION***	***UNION_IND***
Labor Union		
Labor Union		
Coefficient	**0.017**	**0.002**
t-statistic	**3.000**	**4.872**
p-value	**0.003**	**0.000**
Intercept and controls	Yes	Yes
Year and industry fixed effects	Yes	Yes

Observations	7,954	7,979
Adj. R-squared	0.336	0.341

Notes: This table presents the results of estimating our model. All continuous variables are winsorized at the top and bottom 1%. Standard errors are clustered by firm (Petersen 2009). All variables are defined in Appendix 1.

Table 5: The Effect of Firm Characteristics on the Relation between Labor Unions and Goodwill Impairment

Panel A: The Relationship between UNION and Goodwill Impairment

	Firm Age						Growth Opportunities					
	GWI		***GWI_FREQ***		***GWI_LOSS***		***GWI***		***GWI_FREQ***		***GWI_LOSS***	
	Low	High	Low	High	Low	High	Low	High	Low	High	Low	High
UNION												
Coefficient	**9.042**	**10.749**	**7.656**	**7.199**	**0.050**	**0.030**	**7.797**	**7.182**	**3.546**	**7.276**	**0.046**	**0.029**
z-statistic	**2.271**	**3.363**	**2.022**	**2.436**	**1.980**	**1.690**	**1.907**	**2.072**	**0.988**	**2.361**	**1.904**	**1.728**
p-value	**0.023**	**0.001**	**0.043**	**0.015**	**0.048**	**0.091**	**0.056**	**0.038**	**0.323**	**0.018**	**0.057**	**0.084**
Intercept and controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year and industry fixed effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
p-value for the difference	0.737		0.924		0.512		0.911		0.444		0.553	

Panel B: The Relationship between UNION_IND and Goodwill Impairment

	Firm Age						Growth Opportunities					
	GWI		***GWI_FREQ***		***GWI_LOSS***		***GWI***		***GWI_FREQ***		***GWI_LOSS***	
	Low	High	Low	High	Low	High	Low	High	Low	High	Low	High
UNION_IND												
Coefficient	**1.366**	**0.667**	**1.081**	**0.430**	**0.006**	**0.004**	**0.948**	**0.703**	**0.679**	**0.581**	**0.003**	**0.002**
z-statistic	**3.261**	**2.131**	**2.372**	**1.533**	**2.807**	**2.489**	**2.565**	**2.334**	**2.162**	**1.950**	**1.738**	**2.418**
p-value	**0.001**	**0.033**	**0.018**	**0.125**	**0.005**	**0.013**	**0.010**	**0.020**	**0.031**	**0.051**	**0.082**	**0.016**
Intercept and controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year and industry fixed effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
p-value for the difference	0.182		0.224		0.341		0.592		0.813		0.715	

Notes: This table reports the results of the subsample analysis by *AGE*, and *MTB*. All continuous variables are winsorized at the top and bottom 1%. Standard errors are clustered by firm (Petersen 2009). All variables are defined in Appendix 1.

Table 6: The Results of the Two-Stage Least Squares Regressions

Panel A: First-Stage Regression

Variable Name	*UNION*	*UNION_IND*
FEMALE		
Coefficient	-0.024	-0.772
t-statistic	-7.437	-19.450
p-value	0.000	0.000
Intercept and controls	Yes	Yes
Year and industry fixed effects	Yes	Yes
Observations	7,648	7,662
Adj. (Pseudo) R-squared	0.362	(0.263)

Panel B: Second-Stage Regression (Relation between Likelihood of Goodwill Impairment and Labor Unions)

Variable Name	*UNION*	*UNION_IND*
UNION (Fitted Value)		
Coefficient	**3.247**	
z-statistic	**2.500**	
p-value	**0.012**	
UNION_IND (Fitted Value)		
Coefficient		**0.101**
z-statistic		**2.706**
p-value		**0.007**
Intercept and controls	Yes	Yes
Year and industry fixed effects	Yes	Yes
Observations	7,648	7,662
Adj. (Pseudo) R-squared	0.098	0.205

Panel C: Second-Stage Regression (Relation between Labor Unions and Frequency of Goodwill Impairment)

Variable Name	*UNION*	*UNION_IND*
UNION (Fitted Value)		
Coefficient	**5.694**	
z-statistic	**(1.829)**	
p-value	**0.067**	
UNION_IND (Fitted Value)		
Coefficient		**0.177**
z-statistic		**(1.920)**
p-value		**0.055**
Intercept and controls	Yes	Yes
Year and industry fixed effects	Yes	Yes
Observations	7,648	7,662
Adj. R-squared	0.192	0.242

Panel D: Second-Stage Regression (Relation between Labor Unions and Magnitude of Goodwill Impairment)

Variable Name	*UNION*	*UNION_IND*
UNION (Fitted Value)		
Coefficient	**0.198**	
t-statistic	**2.992**	
p-value	**0.003**	
UNION_IND (Fitted Value)		
Coefficient		**0.006**
t-statistic		**3.295**
p-value		**0.001**
Intercept and controls	Yes	Yes

Year and industry fixed effects	Yes	Yes
Observations	7,648	7,662
Adj. R-squared	0.219	0.329

Notes: This panel reports the results of the 2SLS regressions. All continuous variables are winsorized at the top and bottom 1%. Standard errors are clustered by firm (Petersen 2009). All variables are defined in Appendix 1.

Stage 1

$$UNION_{i,t}(UNION\_IND_{i,t}) = \beta_0 + \beta_1 FEMALE_{i,t} + \beta_2 ROA_{i,t} + \beta_3 SIZE_{i,t} + \beta_4 MTB_{i,t} + \beta_5 GW/TA_{i,t} + \beta_6 SEGMENTS_{i,t} + \beta_7 YEARS\_IMP_{i,t} + \beta_8 RISK_{i,t} + \beta_9 LEVERAGE_{i,t} + \beta_{10} AUDIT_{i,t} + \beta_{11} FOLLOW_{i,t} + \beta_{12} INST\_OWN_{i,t} + \beta_{13} COMP_{i,t} + \beta_{14} TENURE_{i,t} + \beta_{15} SMOOTH_{i,t} + \beta_{16} BATH_{i,t} + \beta_{17} RETURN_{i,t} + \beta_{18} RETURN\_LAG_{i,t} + \sum \beta_j INDUSTRY_{j,i} + \sum \beta_t YEAR + \varepsilon_{i,t}$$

Stage 2

$$GWI\ (GWI\_FREQ\ or\ GWI\_LOSS_{i,t}) = \beta_0 + \beta_1 UNION_{i,t}(UNION\_IND_{i,t}) + \beta_2 ROA_{i,t} + \beta_3 SIZE_{i,t} + \beta_4 MTB_{i,t} + \beta_5 GW/TA_{i,t} + \beta_6 SEGMENTS_{i,t} + \beta_7 YEARS\_IMP_{i,t} + \beta_8 RISK_{i,t} + \beta_9 LEVERAGE_{i,t} + \beta_{10} AUDIT_{i,t} + \beta_{11} FOLLOW_{i,t} + \beta_{12} INST\_OWN_{i,t} + \beta_{13} COMP_{i,t} + \beta_{14} TENURE_{i,t} + \beta_{15} SMOOTH_{i,t} + \beta_{16} BATH_{i,t} + \beta_{17} RETURN_{i,t} + \beta_{18} RETURN\_LAG_{i,t} + \sum \beta_j INDUSTRY_{j,i} + \sum \beta_t YEAR + \varepsilon_{i,t}$$

Table 7: Unionized Firms versus Non-Unionized Firms in Highly Unionized Industries

	Unionized Firms			Non-Unionized Firms					
	n	Mean	Std. Dev.	n	Mean	Std. Dev.	Diff in Mean	t-test p-value	Rank-sum p-value
GWI	2,275	0.164	0.370	1,657	0.104	0.306	0.059	0.000	0.000
GWI_FREQ	2,275	0.371	1.059	1,657	0.232	0.836	0.138	0.000	0.000
GWI_LOSS	2, 275	0.005	0.019	1, 657	0.003	0.017	0.002	0.002	0.000

Notes: This table reports the simple statistics of *GWI, GWI_FREQ, and GWLOSS* for unionized and non-unionized firms in unionized industries, mean differences between the unionized and non-unionized firms, and p-values corresponding to tests for differences in means and medians based on the t-test and Mann-Whitney rank-sum test. All continuous variables are winsorized at the top and bottom 1%. All variables are defined in Appendix 1.

Table 8: Cross-sectional variations in the Relation between Labor Unions and Goodwill Impairment

Panel A: The Effect of Cash Holding on the Relation between Labor Unions and Goodwill Impairment

	GWI		*GWI_FREQ*		*GWI_LOSS*	
	Low	**High**	**Low**	**High**	**Low**	**High**
UNION						
Coefficient	**-1.053**	**10.567**	**-0.994**	**8.190**	**-0.057**	**0.052**
z-statistic	**-0.242**	**2.529**	**-0.289**	**2.480**	**-2.350**	**2.351**
p-value	**0.809**	**0.011**	**0.773**	**0.013**	**0.019**	**0.019**
Intercept and controls	Yes	Yes	Yes	Yes	Yes	Yes
Year and industry fixed effects	Yes	Yes	Yes	Yes	Yes	Yes
p-value for the difference	0.049		0.048		0.001	

Panel B: The Effect of Inventory Holdings on the Relation between Labor Unions and Goodwill Impairment

	GWI		*GWI_FREQ*		*GWI_LOSS*	
	Low	**High**	**Low**	**High**	**Low**	**High**
UNION						
Coefficient	**14.249**	**1.618**	**9.198**	**1.246**	**0.066**	**0.007**
z-statistic	**3.036**	**0.921**	**2.549**	**0.800**	**2.553**	**0.733**
p-value	**0.002**	**0.357**	**0.011**	**0.424**	**0.011**	**0.464**
Intercept and controls	Yes	Yes	Yes	Yes	Yes	Yes
Year and industry fixed effects	Yes	Yes	Yes	Yes	Yes	Yes
p-value for the difference	0.011		0.038		0.029	

Panel C: The Effect of Leverage on the Relation between Labor Unions and Goodwill Impairment

	GWI		*GWI_FREQ*		*GWI_LOSS*	
	Low	**High**	**Low**	**High**	**Low**	**High**
UNION						
Coefficient	**12.296**	**0.219**	**11.259**	**-1.234**	**0.049**	**0.005**
z-statistic	**2.833**	**0.102**	**3.030**	**-0.563**	**3.126**	**0.364**
p-value	**0.005**	**0.919**	**0.002**	**0.573**	**0.002**	**0.716**
Intercept and controls	Yes	Yes	Yes	Yes	Yes	Yes
Year and industry fixed effects	Yes	Yes	Yes	Yes	Yes	Yes
p-value for the difference	0.014		0.004		0.029	

Notes: This table reports the results of the subsample analysis by *CASH_HOLDING, INVENTORY, AND LEV.* All continuous variables are winsorized at the top and bottom 1%. Standard errors are clustered by firm (Petersen 2009). All variables are defined in Appendix 1.

Table 9: The Impact of Financial Crisis on the Relation between Labor Unions and Goodwill Impairment

Panel A: The Relationship between UNION and Goodwill Impairment

	GWI		*GWI_FREQ*		*GWI_LOSS*	
	Crisis Period	Non-Crisis Period	Crisis Period	Non-Crisis Period	Crisis Period	Non-Crisis Period
UNION						
Coefficient	**4.103**	**2.460**	**2.832**	**2.156**	**0.026**	**0.012**
z-statistic	**2.326**	**1.932**	**1.865**	**1.683**	**1.796**	**2.275**
p-value	**0.020**	**0.053**	**0.062**	**0.092**	**0.072**	**0.023**
Intercept and controls	Yes	Yes	Yes	Yes	Yes	Yes
Year and industry fixed effects	Yes	Yes	Yes	Yes	Yes	Yes
p-value for the difference	0.444		0.734		0.356	

Panel B: The Relationship between UNION_IND and Goodwill Impairment

	GWI		*GWI_FREQ*		*GWI_LOSS*	
	Crisis Period	Non-Crisis Period	Crisis Period	Non-Crisis Period	Crisis Period	Non-Crisis Period
UNION_IND						
Coefficient	**0.834**	**0.596**	**0.656**	**0.516**	**0.003**	**0.001**
z-statistic	**4.367**	**5.001**	**3.468**	**3.992**	**2.111**	**1.997**
p-value	**0.000**	**0.000**	**0.001**	**0.000**	**0.035**	**0.046**
Intercept and controls	Yes	Yes	Yes	Yes	Yes	Yes
Year and industry fixed effects	Yes	Yes	Yes	Yes	Yes	Yes
p-value for the difference	0.246		0.4929		0.172	

Notes: This table reports the results of the subsample analysis by financial crisis period. All continuous variables are winsorized at the top and bottom 1%. Standard errors are clustered by firm (Petersen 2009). All variables are defined in Appendix 1.

Table 10: The Impact of ASU 2011-08 on the Relation between Labor Unions and Goodwill Impairment

Panel A: Relationship between UNION and Goodwill Impairment

	GWI		*GWI_FREQ*		*GWI_LOSS*	
	Pre	**Post**	**Pre**	**Post**	**Pre**	**Post**
UNION						
Coefficient	**2.181**	**4.279**	**1.428**	**4.041**	**0.016**	**0.017**
z-statistic	**1.811**	**2.577**	**1.248**	**2.521**	**2.110**	**2.576**
p-value	**0.070**	**0.010**	**0.212**	**0.015**	**0.035**	**0.010**
Intercept and controls	Yes	Yes	Yes	Yes	Yes	Yes
Year and industry fixed effects	Yes	Yes	Yes	Yes	Yes	Yes
p-value for the difference	0.281		0.180		0.913	

Panel B: The Relationship between UNION_IND and Goodwill Impairment

	GWI		*GWI_FREQ*		*GWI_LOSS*	
	Pre	**Post**	**Pre**	**Post**	**Pre**	**Post**
UNION_IND						
Coefficient	**0.647**	**0.654**	**0.529**	**0.565**	**0.002**	**0.001**
z-statistic	**4.327**	**4.857**	**3.458**	**3.788**	**2.500**	**1.002**
p-value	**0.000**	**0.000**	**0.001**	**0.000**	**0.012**	**0.317**
Intercept and controls	Yes	Yes	Yes	Yes	Yes	Yes
Year and industry fixed effects	Yes	Yes	Yes	Yes	Yes	Yes
p-value for the difference	0.968		0.850		0. 395	

Notes: This table reports the results of the subsample analysis by ASU 2011-08. All continuous variables are winsorized at the top and bottom 1%. Standard errors are clustered by firm (Petersen 2009). All variables are defined in Appendix 1.

Table 11: The Relation between Goodwill Impairment and Labor Unions in the Absence of Market Indications of Goodwill Impairment

Panel A: Relationship between UNION and Goodwill Impairment

Variable Name	*GWI*	*GWI_FREQ*	*GWI_LOSS*
UNION			
Coefficient	**3.687**	**3.271**	**0.015**
z-statistic	**2.999**	**2.796**	**2.935**
p-value	**0.003**	**0.005**	**0.003**
Intercept and controls	Yes	Yes	Yes
Year and industry fixed effects	Yes	Yes	Yes
Observations	6,599	6,627	6,627
Pseudo (Adj.) R-squared	0.1865	0.1360	(0.265)

Panel B: The Relationship between UNION_IND and Goodwill Impairment

Variable Name	*GWI*	*GWI_FREQ*	*GWI_LOSS*
UNION			
Coefficient	**0.586**	**0.527**	**0.002**
z-statistic	**5.080**	**4.682**	**3.752**
p-value	**0.000**	**0.000**	**0.000**
Intercept and controls	Yes	Yes	Yes
Year and industry fixed effects	Yes	Yes	Yes
Observations	6,611	6,647	6,647
Pseudo (Adj.) R-squared	0.1915	0.1392	(0.265)

Notes: This table reports the results when there are no market indications of goodwill impairment. All continuous variables are winsorized at the top and bottom 1%. Standard errors are clustered by firm (Petersen 2009). All variables are defined in Appendix 1.

FIGURE 1
Number and Value of Mergers and Acquisitions in the United States of America